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Current Economic Analysis I-26

# Industrial Fishery Products

## Market Review and Outlook

Economic and Marketing Research Division
Washington, D.C.

**February, 1976**

noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / NATIONAL MARINE FISHERIES SERVICE

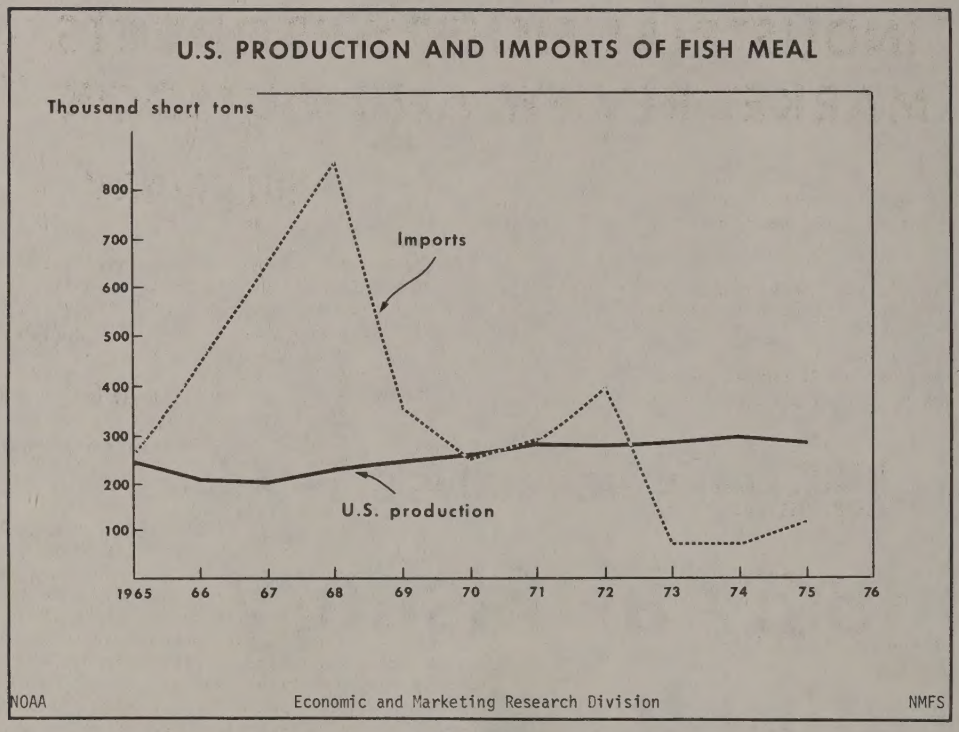


Figure 1

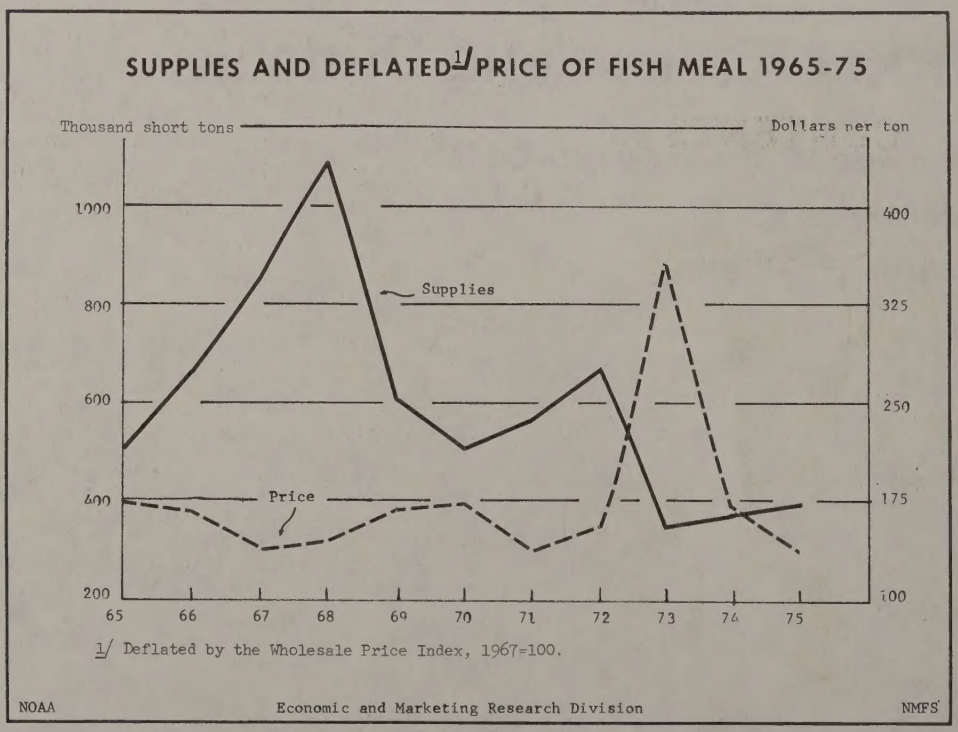


Figure 2

# INDUSTRIAL FISHERY PRODUCTS MARKET REVIEW AND OUTLOOK

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## SUMMARY

The supply picture for industrial fishery products was mixed during 1975. Supplies of fish meal and oil posted gains during the year, but the quantity of fish solubles available declined 7 percent. Although supplies of fish meal increased 10 percent from a year earlier, the total was still well below quantities available prior to 1973. The 1975 increase in fish meal supplies was the result of higher imports which offset a slight decline in domestic production, while the gain in oil was attributed to higher yields.

Demand for all three products apparently rose somewhat in the second half of the year, as reflected by rising prices at the wholesale level. The average price for menhaden meal rose from $218.75 per short ton in June to $266.25 in December. However, the December price was still $15 below a year earlier. Menhaden solubles prices rose nearly $13 per short ton from August to December, and price for menhaden oil increased from 13 to 15.5 cents per pound from May to December. Like fish meal, prices for these two products at year's end were well below the previous year, down 11 and 38 percent, respectively.

The outlook for industrial fishery products is guardedly optimistic for 1976. Supplies for all three products will likely increase from year earlier totals. Both domestic production and imports are expected to increase. Much of the improvement in fish meal supplies is based on an expected increase in Peruvian production and imports from Peru.

Demand for fish meal and solubles is likely to increase from 1975, but fish oil demand will probably slip somewhat. Anticipated higher poultry production and increases in the prices for substitute products will be primarily responsible for the gain in fish meal and solubles demand. Consequently, prices will improve from 1975 levels, although higher supplies may limit those gains.

Higher world supplies and relatively low prices of substitute products, on the other hand, may reduce demand for fish oil. The competitive position of fish oil is expected to decline during the year, causing prices to drop from current levels.

# FISH MEAL

## REVIEW

Supplies of fish meal in the United States during 1975 continued to be relatively low, particularly when compared to quantities available prior to 1973. The total of domestic production and imports increased 10 percent to 397,900 short tons during the year. However, this was still less than two thirds of the last 10-year average.

The current low level of available fish meal continues to be primarily associated with extremely low imports. Although improvement was seen in imports in 1975 (up 73 percent from 1974), the 118,000 short tons imported was only a fraction of the quantities received before 1973. Domestic production slipped somewhat during the year to 279,500 short tons, but was still in line with historical levels (fig. 1).

Prices continued to fall from the peak in 1973 when low supplies of fish meal and other high-protein feeds caused prices to increase rapidly. The average wholesale price for menhaden meal fell to $239 per short ton from the $276 average in 1974--a drop of 13 percent. When adjusted for the effects of the overall inflation rate in the United States, the decline in fish meal prices was even more dramatic. Prices in real terms fell 21 percent from a year earlier, the lowest since 1967 (table I and fig. 2).

Unlike the other feed commodities, the drop in fish meal prices was not associated with a substantial increase in supply. Rather, the drop in prices last year was primarily associated with a continuing decline in the demand for fish meal. With fish meal supplies low, feed formulators continued to use substitute high-protein meals in their formulas. The price declines for fish meal during the first half of 1975, despite low supplies and a relatively normal quantity demanded for feed by poultry producers, suggest that demand for fish meal was sluggish. Apparently, the price adjustments for menhaden meal were not sufficient to stimulate demand, particularly in light of the adequate supplies of soybean meal available and the reduction in prices for soybean meal. Menhaden meal prices declined throughout the first half of 1975, reaching a low of $218 per short ton, about 17 percent below the beginning of the year.

Prices strengthened somewhat in the second half of the year, but this was partially attributed to reports during the late summer that fish meal production in Peru might again be limited, thereby reducing United States imports. These reports were confirmed later in the year as Peru placed a ban on all exports of fish meal beginning on December 1. In addition, prices during the third quarter were buoyed by speculation of possible Russian purchases of soybeans.

Table I.--Fish meal supplies, prices of menhaden and soybean meal, and chick placements 1/

| Period | Fish meal supplies | | | Wholesale prices | | | Chick placements |
|---|---|---|---|---|---|---|---|
| | Production | Imports | Total supplies | Menhaden meal, Actual | Menhaden meal, Deflated 2/ | Soybean meal | |
| | Thousand short tons | | | Dollars per short ton | | | Million birds |
| 1965 | 242.3 | 270.7 | 513.0 | 168.6 | 174.4 | 80.8 | 2,379.6 |
| 1966 | 212.4 | 447.8 | 660.2 | 161.0 | 161.3 | 91.9 | 2,601.2 |
| 1967 | 201.4 | 651.5 | 852.9 | 136.5 | 136.6 | 83.4 | 2,601.7 |
| 1968 | 226.6 | 855.3 | 1,082.3 | 145.3 | 141.8 | 85.0 | 2,636.4 |
| 1969 | 244.1 | 358.4 | 603.5 | 174.3 | 163.7 | 82.8 | 2,856.8 |
| 1970 | 257.0 | 251.5 | 508.5 | 184.5 | 167.1 | 86.8 | 3,008.9 |
| 1971 | 282.9 | 283.2 | 566.1 | 158.0 | 138.7 | 83.9 | 2,991.2 |
| 1972 | 274.1 | 392.0 | 666.1 | 185.5 | 155.8 | 115.7 | 3,110.2 |
| 1973 | 279.1 | 68.6 | 347.6 | 478.2 | 355.0 | 231.9 | 3,029.7 |
| 1974 | 291.6 | 68.3 | 360.0 | 276.1 | 172.4 | 153.5 | 2,936.4 |
| 1975 | 279.5 | 118.4 | 397.9 | 239.1 | 136.7 | 134.1 | 2,983.7 |
| 1965-74 average | 251.2 | 364.7 | 615.9 | | 176.6 | | 2,815.2 |
| 1974 1st half | 116.3 | 9.1 | 125.4 | 272.7 | 179.6 | 148.2 | 1,606.5 |
| 2nd half | 175.3 | 59.2 | 234.6 | 277.4 | 164.8 | 158.3 | 1,329.9 |
| 1975 1st half | 105.8 | 27.0 | 132.6 | 223.1 | 129.6 | 132.0 | 1,519.8 |
| 2nd half | 173.7 | 91.4 | 265.0 | 247.9 | 139.6 | 136.3 | 1,463.9 |

1/ Feed demand by the poultry industry in addition to soybean meal prices are the best demand indicators for fish meal. The first uses up to three quarters of all fish meal supplies; the second tends to influence the percentage of fish meal in feed rations.

2/ Divided by the Wholesale Price Index (all commodities) 1967=100 .

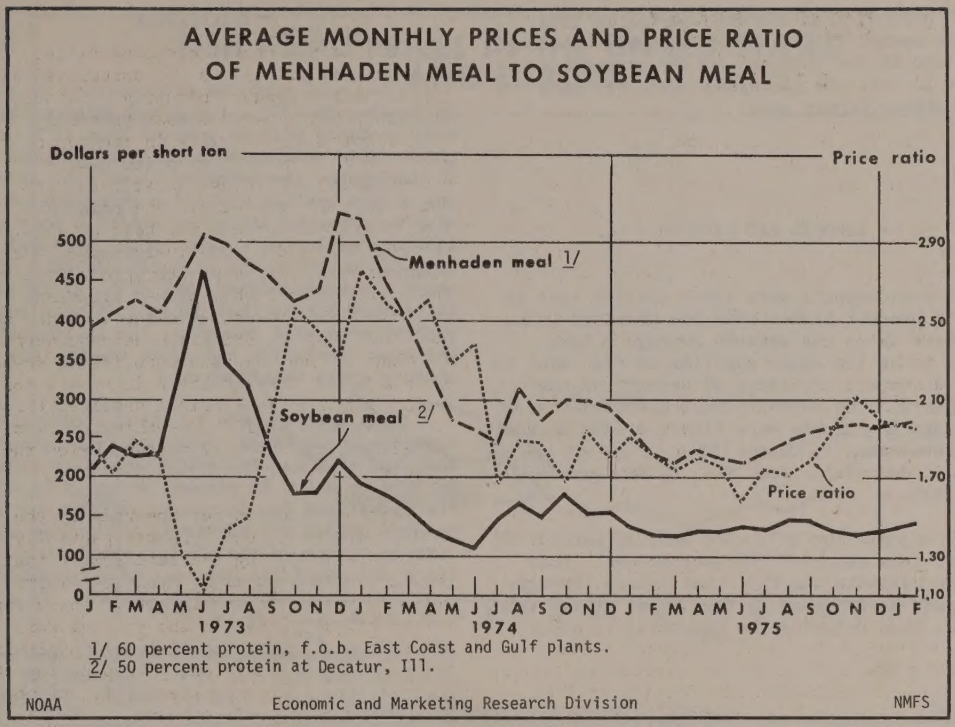



Figure 3

A slight improvement in market demand may have also influenced second-half increases of fish meal prices. By midyear, fish meal prices relative to soybean meal prices were relatively low and a slight rise in chick placements may have increased the demand for fish meal. Lower soybean prices in the fourth quarter, however, again reduced demand for fish meal and prices leveled between $266 and $269 during the last 3 months of the year (figs. 3 and 4).

## Supplies

Total supplies of fish meal available in the United States during 1975 were 397,900 tons or 9 percent above 1974. 3/ However, the quantity available was about 35 percent below the 1965-74 average. With domestic production below 1974, the improvement in supplies was attributed to higher imports.

3/ Unless otherwise specified, all data is in short tons. To convert metric tons to short multiply by 1.1023

Fish meal production and value

About 280,000 tons of fish meal were produced in the United States in 1975, 4 percent below the [redacted] high of 1974. The estimated total value of this feed commodity declined 24 percent to $65 million, the result of lower production and prices.

Menhaden meal production declined to 191,400 tons in 1975 or about 6 percent below the 1974 [redacted] high. The preliminary estimated value at the plants was about $46 million in 1975, 18 percent below the year before.

Production in both the Gulf and Atlantic Coast declined in 1975. Lower Gulf production was a result of an 8-percent drop in the menhaden catch despite an increase of 7 vessels to a total of 78 vessels in the fleet. Production along the Atlantic Coast dropped about 5 percent. Total domestic landings of menhaden were 1.8 billion pounds--compared to the 1.9 billion pounds in 1974.

About 36,800 tons or 13 percent of all domestic fish meal produced in 1975 was from tuna and mackerel. The 24 percent reduction in the combined total of tuna and mackerel meal was primarily attributed to a 70,000-ton reduction in tuna imports. On the other hand, the production of anchovy meal almost doubled during 1975. By the end of the year, landings from the current California anchovy season were 88,000 tons--up

nearly 90 percent from the same period in 1974. The season opened in the Northern Permit Area on August 1 and in the Southern Permit Areas on September 1. All the increased catch was made in the Southern Permit Area.

## IMPORTS AND EXPORTS

Fish meal imports were about 120,000 tons in 1975 or 73 percent higher than the previous year, but only one third the 1965-74 average. Peru continued to be the major supplier of fish meal to the United States, providing 60 percent of the total imports. The major factors associated with the increase in imports were higher prices in the United States than in Europe (figs. 5 and 6) and an increase in demand for fish meal in the second half of 1975.

U.S. exports for 1975 were only 20 percent of the 55,515 tons exported the year before. This sharp drop reflects the fact that prices throughout the year were higher in the United States than in Europe, thus reducing the incentive to export.

## OUTLOOK

Fish meal supplies are expected to continue to improve in 1976. U.S. production of menhaden meal probably will be greater than 1975 unless unfavorable weather substantially reduces landings. In aggregate, the menhaden fleet will increase by one or two vessels despite a reduction of four vessels expected along the Atlantic Coast. Preliminary estimates suggest that the total 1976 menhaden catch in the Atlantic and Gulf will be about 5 percent higher than 1975. 4/ In addition it is very likely that domestic production of anchovy meal will increase; the California Fish and Game Commission has added 50,000 tons to the anchovy quota this season.

Fish meal exports to the United States will continue to increase. Our preliminary estimates indicate that exports could expand to 220,000 tons in 1976 or about 85 percent above 1975. Certainly the incentives for increased imports are present because prices are higher in the United States than in Europe or the Socialist countries, and there are about 250,000 tons of contracted fish meal from Peru yet to be delivered. In addition,

4/ Preliminary forecast of Atlantic and Gulf menhaden landings for 1976. Released by the NMFS, Atlantic Estuarine Fishery Center, Beaufort, N.C. during November 1975.

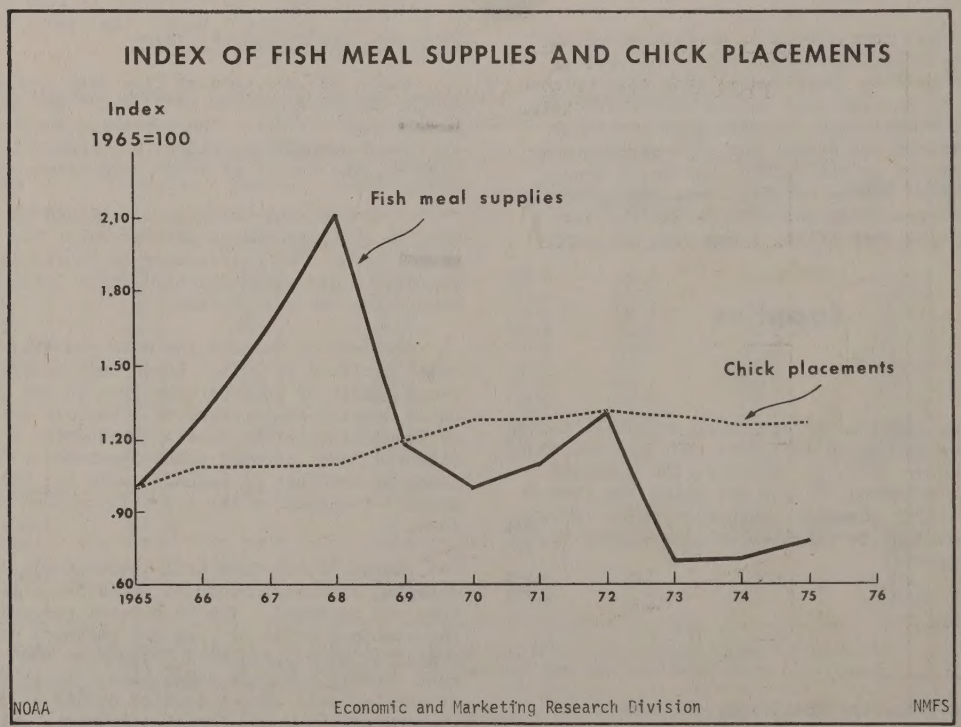



Figure 4

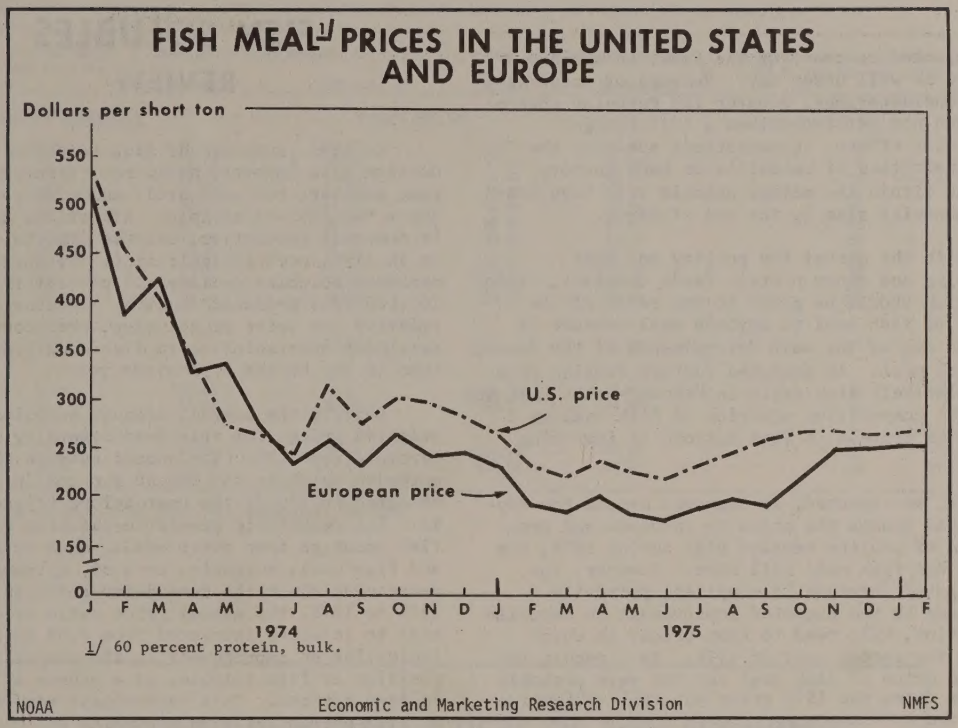
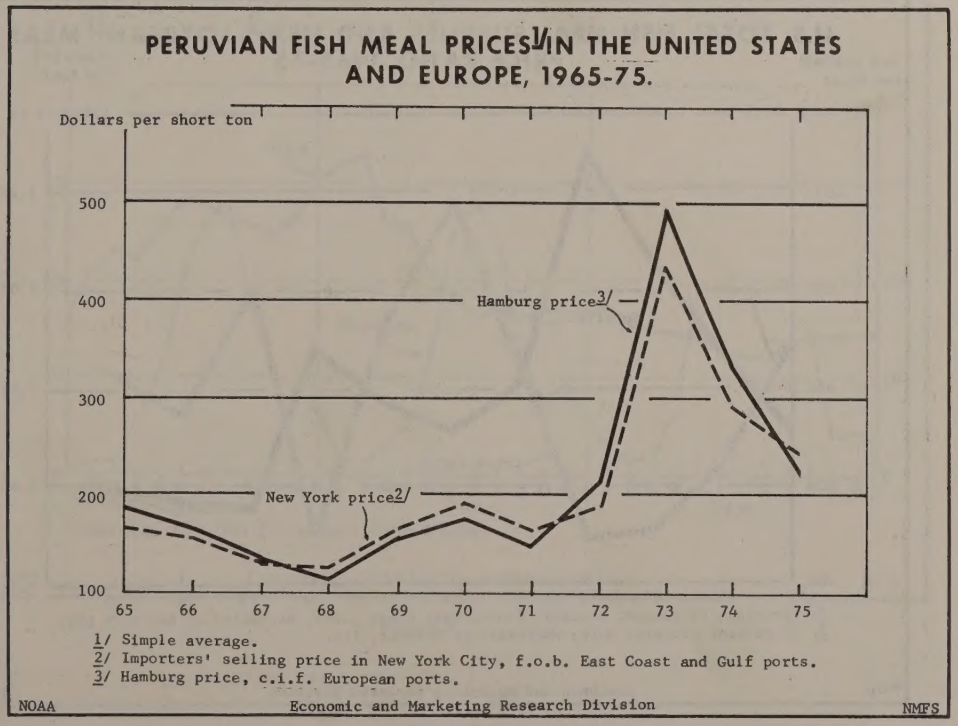



Figure 5


PERUVIAN FISH MEAL PRICES 1/ IN THE UNITED STATES AND EUROPE, 1965-75.
Dollars per short ton
500
400
300
200
100
Hamburg price 3/
New York price 2/
65 66 67 68 69 70 71 72 73 74 75
1/ Simple average.
2/ Importers' selling price in New York City, f.o.b. East Coast and Gulf ports.
3/ Hamburg price, c.i.f. European ports.
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Economic and Marketing Research Division
NMFS

Figure 6

the expected recovery of the Peruvian anchovy fishery is well under way. Because of conservation considerations, however the Peruvian government has not yet authorized a full-fledged commercial effort. Expectations are that the huge quantities of peladilla or baby anchovy present within the mature schools will have grown to commercial size by the end of March.

With the market for poultry and meat improving and other protein feeds abundant, close attention should be given to the ratio of the prices of fish meal to soybean meal because it will be one of the main determinants of the demand for fish meal. An expected further decline from the relatively high ratio in February will indicate that the competitive position of fish meal as a source of protein in feed rations is improving (fig. 7).

If, as expected, an improved demand for soybean meal causes the price to increase and production of poultry remains high during 1976, the demand for fish meal will rise. However, the anticipated increase in supplies, primarily generated by the expected improvement in Peruvian production, will tend to keep prices in check during the second part of 1976. As a result the average price of fish meal for the year probably will be above the 1975 price but still slightly below the 1974 average price.

# FISH SOLUBLES
## REVIEW

In 1975, supplies of fish solubles (production plus imports) declined 7 percent from a year earlier, but were still about 23 percent above the 1965-74 average. All of the decline was in domestic production, because imports in 1975, as in 1974, were insignificant. Production of menhaden solubles declined 19 percent from the 102,000 tons produced in 1974. Because of the relative low price of solubles, producers were returning more solubles to fish meal press cake than in any of the 3 previous years.

Despite the overall drop in supplies, average weighted prices for this feed commodity fell 26 percent from 1974. The annual average price of menhaden solubles was $66.40 per ton in 1975, compared to $89.71 the year before (figs. 8 and 9). The relatively greater decline in prices of fish solubles than other meals, such as soybean and fish meal, suggests, at best, a temporary deterioration in the demand for solubles. From 1974 to 1975, the annual price ratio of menhaden meal to solubles increased from 3.08 to 3.60, indicating an improvement in the competitive position of fish solubles as a source of protein in feed rations. This improvement was reflected in a 12-percent gain in the price of solubles in the fourth quarter.

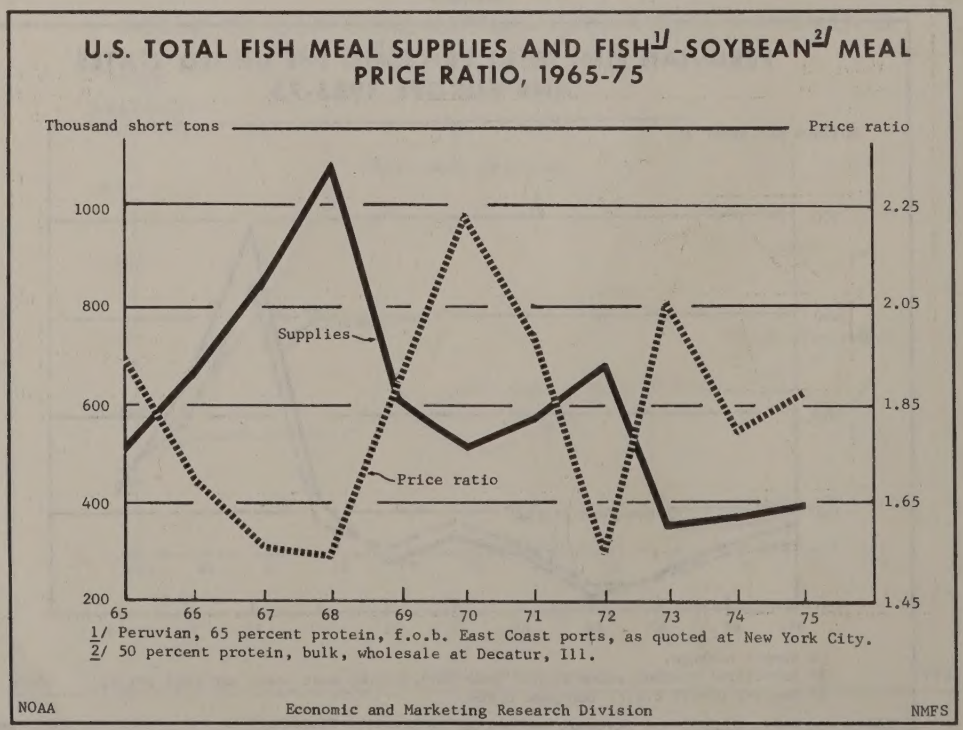



Figure 7

Table II.--Fish solubles supplies, prices of menhaden solubles and soybean meal, and price ratio of the two commodities

| Period | Fish solubles New supplies | Average price of menhaden solubles | | Average price of soybean meal | | Ratio of menhaden solubles price to soybean meal price |
|---|---|---|---|---|---|---|
| | | Actual | Deflated 1/ | Actual | Deflated 1/ | |
| | Thousand short tons | Dollars per ton | | | | Price ratio |
| 1965 | 100.0 | 58.28 | 60.33 | 80.77 | 83.61 | .72 |
| 1966 | 87.7 | 70.74 | 70.88 | 91.86 | 92.04 | .77 |
| 1967 | 78.3 | 63.24 | 63.24 | 83.45 | 83.24 | .76 |
| 1968 | 73.6 | 52.93 | 51.64 | 84.99 | 82.91 | .62 |
| 1969 | 81.9 | 49.60 | 46.57 | 82.80 | 77.75 | .60 |
| 1970 | 95.9 | 51.88 | 46.99 | 86.80 | 78.62 | .60 |
| 1971 | 111.2 | 47.30 | 41.53 | 83.90 | 73.66 | .56 |
| 1972 | 134.5 | 43.45 | 36.48 | 115.70 | 97.14 | .38 |
| 1973 | 137.7 | 134.88 | 100.13 | 231.90 | 172.16 | .58 |
| 1974 | 137.3 | 89.71 | 56.03 | 153.50 | 95.88 | .58 |
| 1975 | 127.9 | 66.40 | 37.96 | 134.12 | 76.68 | .50 |
| 1965-74 average | 103.7 | | 57.38 | | 93.70 | .61 |
| 1974 1st half | 51.0 | 100.25 | 66.04 | 148.15 | 98.60 | .67 |
| 2d half | 86.4 | 83.94 | 49.88 | 158.31 | 94.06 | .53 |
| 1975 1st half | 54.8 | 67.38 | 39.15 | 131.98 | 76.68 | .51 |
| 2d half | 73.0 | 65.97 | 37.14 | 136.28 | 76.73 | .48 |

1/ Divided by the Wholesale Price Index (all commodities) 1967=100.

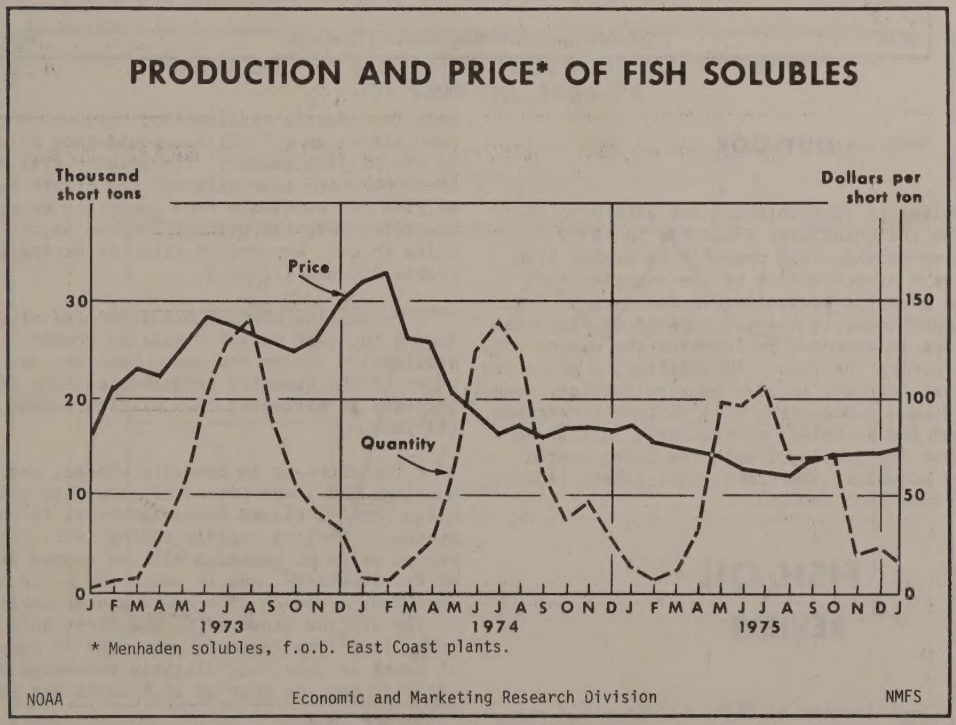



Figure 8

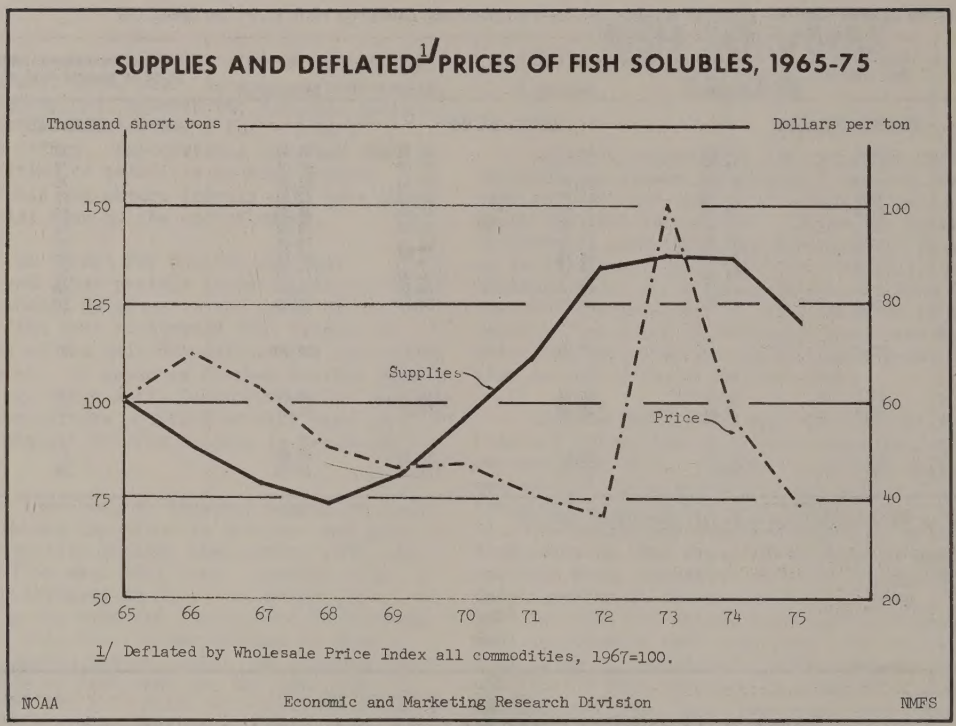



Figure 9

## OUTLOOK

Supplies of fish solubles are likely to improve from the quantities available in 1975. Solubles production will probably be higher than in 1975 as a direct result of the expected increase in domestic production of fish meal. The recent improvement in the price ratio of fish meal to solubles is expected to increase the demand for solubles during the year. In addition, a projected substantial increase in 1976 poultry feeding, based on USDA demand indicators, will further strengthen the demand for solubles, particularly in light of the current low prices of solubles being quoted. Prices of solubles, therefore, will likely improve somewhat from 1975 levels.

# FISH OIL

## REVIEW

Total utilization of fish oil (domestic use plus exports) continued to decline during 1975 despite slightly higher U.S. consumption. Domestic utilization, which is limited by law to industrial purposes, increased 5 percent to 36.8 million pounds, the largest amount used since 1966. The gain in domestic utilization, however, was more than offset by a 7-million-pound drop in exports to 192 million pounds. The greater availability of soybean and palm oils and the higher quantities of fish oil available from competing exporting countries were the primary factors in the decline in U.S. exports of fish oil during 1975 (table III and fig. 10).

Production of fish oil increased slightly during the year to 245.6 million pounds. Total utilization during the year, however, was well short of the quantity produced, causing stocks to increase an estimated 16.9 million pounds during the year.

The increase in domestic stocks, and higher supplies and lower prices of competing oils in world markets caused fish oil prices in the United States to decline rapidly during 1975. The average annual price of menhaden oil, as quoted by brokers at New York City, was 14 cents per pound in 1975, down from a record 25.4 cents a year earlier. All of the decline occurred in the first half as the price fell from 25 cents per pound in January to 13 cents in June, but slightly recovered thereafter to end the year at 15.5 cents per pound (fig. 11).

An additional factor which may have been partially responsible for the significant drop in prices during 1975 was the suspension of custom duties by the United Kingdom, Denmark, and

Table III.--Fish oil production, exports domestic use, apparent stocks changes and deflated prices 1/
1965-75 and 1965-74 average

| Period | Production | Exports | Domestic | Net changes 2/ in stocks | Wholesale price of menhaden oil | | Wholesale price of tuna and mackerel oil | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Actual 3/ | Deflated | Actual 3/ | Deflated |
| | Million pounds | | | | Cents per pound | | | |
| 1965 | 195.5 | 103.8 | 44.5 | + 47.2 | 9.3 | 9.6 | 8.0 | 8.3 |
| 1966 | 164.0 | 77.3 | 38.8 | + 47.9 | 9.4 | 9.4 | 7.3 | 7.3 |
| 1967 | 122.4 | 76.8 | 35.8 | + 9.8 | 6.4 | 6.4 | 5.2 | 5.2 |
| 1968 | 173.1 | 65.1 | 30.0 | + 78.0 | 4.7 | 4.6 | 3.2 | 3.1 |
| 1969 | 169.8 | 196.1 | 34.1 | - 60.4 | 5.8 | 5.4 | 3.1 | 2.9 |
| 1970 | 205.8 | 158.8 | 31.4 | + 15.6 | 10.2 | 9.2 | 5.0 | 4.5 |
| 1971 | 265.4 | 229.9 | 26.5 | + 9.0 | 8.8 | 7.7 | 5.6 | 4.9 |
| 1972 | 188.4 | 193.2 | 29.8 | - 34.6 | 7.2 | 6.0 | 5.1 | 4.3 |
| 1973 | 224.6 | 248.9 | 26.5 | - 49.8 | 11.6 | 8.6 | 6.5 | 4.8 |
| 1974 | 238.0 | 199.1 | 35.0 | + 3.9 | 25.4 | 15.9 | 12.3 | 7.7 |
| 1975 | 4/ 245.6 | 4/ 191.9 | 4/ 36.8 | + 4/ 16.9 | 14.0 | 8.0 | 8.7 | 5.0 |
| 1965-74 average | 194.7 | 154.9 | 33.1 | + 6.7 | 5/ 9.9 | 5/ 8.3 | 5/ 6.1 | 5/ 5.3 |

1/ Divided by Wholesale price Index (all commodities) 1967=100.
2/ Production minus exports, and domestic consumption.
3/ Weighted annual average price.
4/ Preliminary.
5/ Simple average.

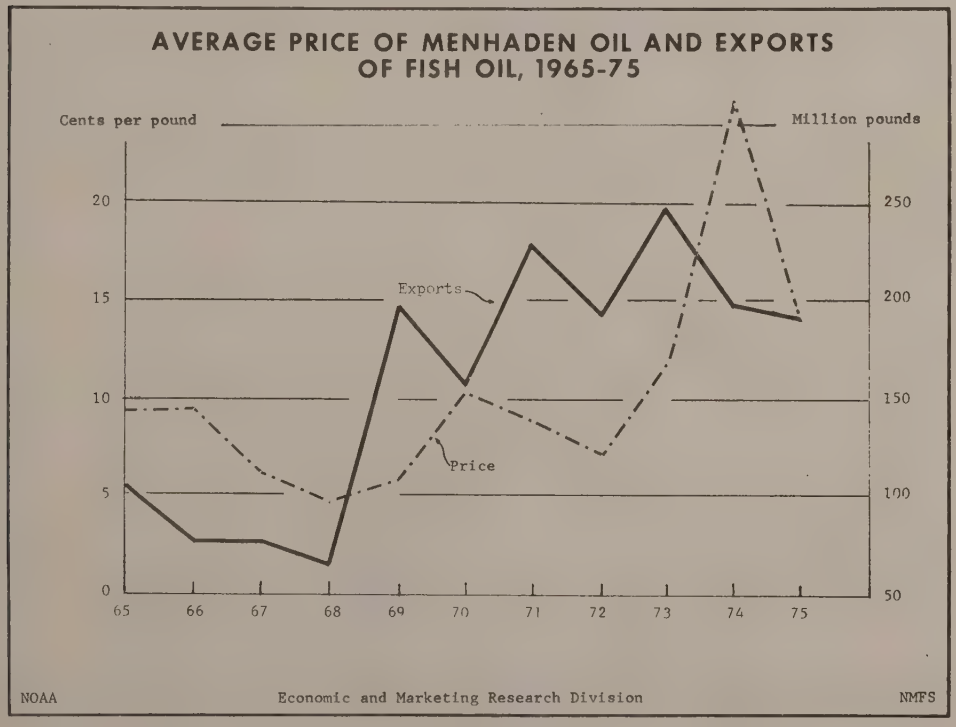



Figure 10

Ireland on imports of fish and marine oils from other members of the European Economic Community (EEC). The suspension of these duties caused oil produced in the United States to be at a competitive disadvantage with oils produced in the EEC and may have prompted further price reductions by the United States, particularly in light of the sagging export demand experienced during the year.

## Supplies

U.S. production of fish oil continued to be extremely high in 1975. The 246 million pounds produced were 3 percent above a year earlier and 27 percent above the 1965-74 average. The improvement in production this year reflects a significant increase in the yield from each species used for reduction purposes. Whereas only 41 tons of oil were obtained with each 100 tons of fish meal produced in 1974, the yield in 1975 increased to 44 tons of oil with each 100 tons of fish meal. Menhaden oil production continued to be the most important product with 87 percent of the total oil produced. However, this represented a 2-percent decline from the quantity produced in 1974. Gains in anchovy and unclassified oil production, on the other hand, more than offset the drop in menhaden oil, rising 129 and 53 percent, respectively (table IV).

Demand for domestically produced fish oil, however, is expected to slip from 1975 quantities. This will be particularly evident in exports, which are likely to post further declines from a year ago. This will primarily be the result of current low prices of soybean oil, high stocks of soybeans and palm oils, prospective record world supplies of substitute fats and oils, and increased production of fish oil by other countries during the year. Expected gains in the availability of Peruvian fish oil during the second half of 1976 will be particularly damaging to the demand for domestically produced oil. In addition, the demand for fish oil may be further undermined by the erosion of the competitive position of domestic fish oil in world markets. With the ratio of fish oil to soybean oil steadily rising since August and soybean oil prices expected to remain low, domestic fish oil will likely continue to be less competitive in the near future (fig. 12)

The combination of higher supplies and lower demand will probably cause prices of fish oil to decline. It appears, that price reductions will be necessary to improve the competitive position, and therefore, the demand of fish oil in the coming year.

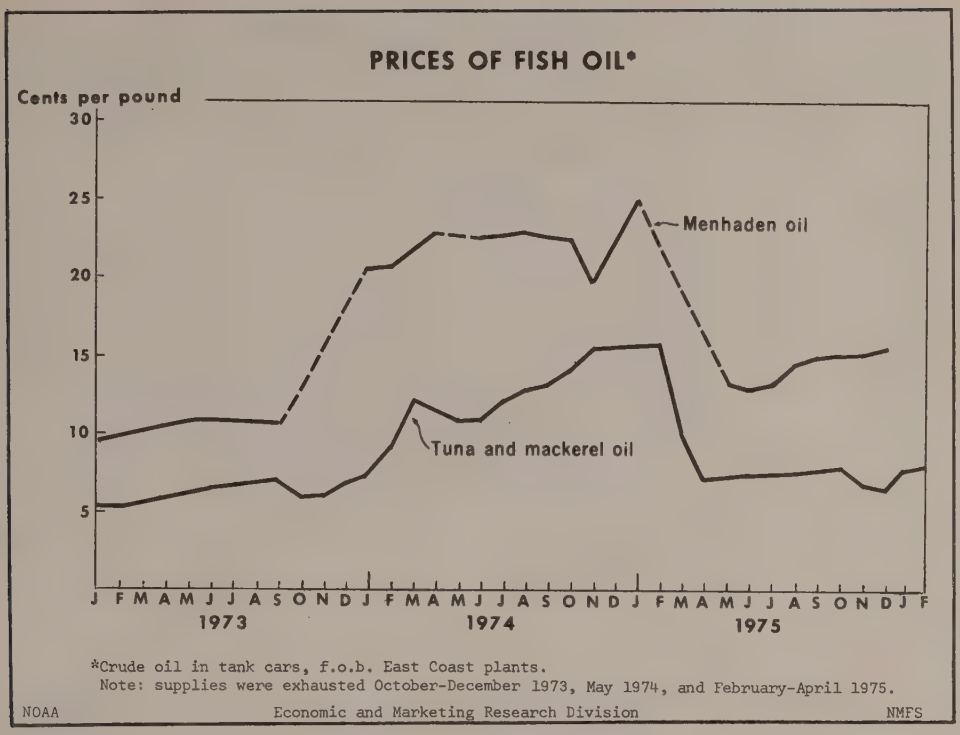
## OUTLOOK

Fish oil production in 1976 will likely exceed the 1975 total assuming that weather factors remain favorable. Expected gains in the catches of menhaden and anchovy for reduction will allow the expansion of oil production.

Table IV.--Production of fish oil by species

| Species | 1965-74 | 1974 | 1975 1/ |
|---|---|---|---|
| | | Thousand pounds | |
| Menhaden | 173,677 | 217,045 | 213,271 |
| Anchovy | 3,766 | 5,602 | 12,857 |
| Tuna and mackerel | 5,064 | 6,819 | 6,444 |
| Unclassified | 11,124 | 8,514 | 12,994 |
| Total | 193,631 | 237,980 | 245,566 |

1/ Preliminary figures subject to revision.


PRICES OF FISH OIL*
Cents per pound
30
25
20
15
10
5
Menhaden oil
Tuna and mackerel oil
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F
1973
1974
1975
*Crude oil in tank cars, f.o.b. East Coast plants.
Note: supplies were exhausted October-December 1973, May 1974, and February-April 1975.
NOAA
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NMFS

Figure 11

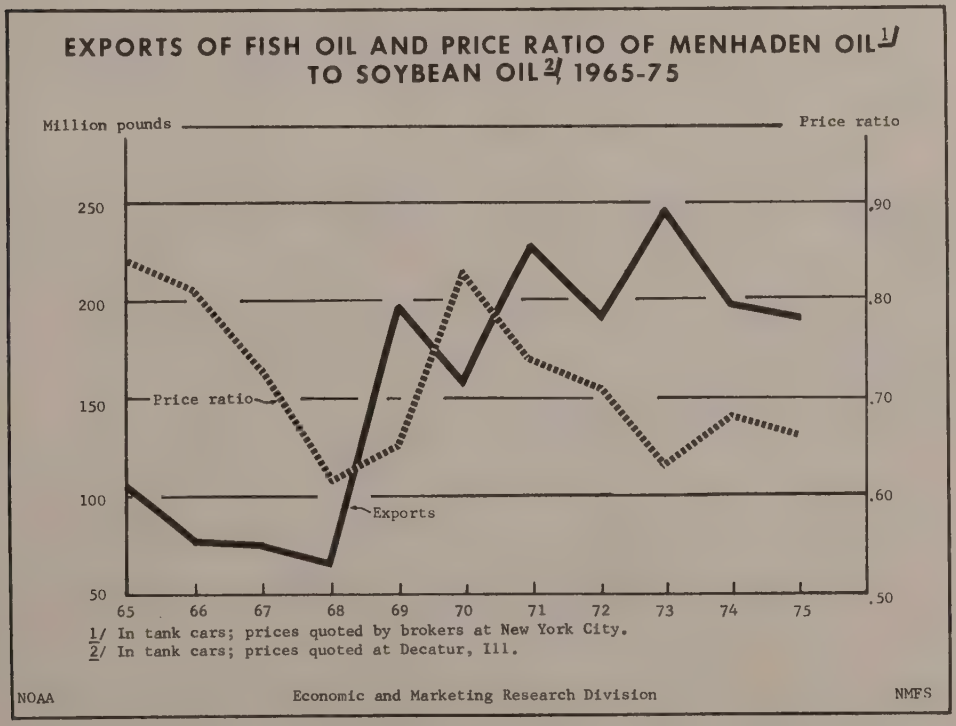


Figure 12

# STATISTICAL APPENDIX

Table 1.--Total fish meal available in the United States, production plus imports, by month, 1965-75 1/

| Month | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 2/ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Thousand short tons | | | | | | | | | | |
| January | 19.2 | 18.1 | 47.7 | 93.4 | 30.0 | 24.0 | 38.0 | 24.6 | 10.3 | 6.8 | 8.4 |
| February | 28.4 | 27.5 | 48.2 | 51.8 | 31.4 | 26.2 | 19.3 | 52.9 | 5.1 | 6.9 | 5.3 |
| March | 57.4 | 39.2 | 79.1 | 59.2 | 49.4 | 25.3 | 17.6 | 51.1 | 5.4 | 8.0 | 6.9 |
| April | 51.1 | 50.8 | 60.0 | 74.1 | 72.7 | 63.0 | 45.6 | 36.8 | 18.9 | 15.4 | 27.9 |
| May | 55.6 | 55.3 | 56.2 | 89.5 | 76.9 | 61.2 | 40.8 | 96.2 | 26.5 | 33.9 | 38.1 |
| June | 93.0 | 82.6 | 74.0 | 111.7 | 89.0 | 80.1 | 88.4 | 90.0 | 43.8 | 54.4 | 46.0 |
| July | 68.8 | 85.5 | 84.0 | 136.0 | 77.1 | 61.0 | 57.5 | 101.9 | 68.3 | 64.2 | 78.2 |
| August | 55.9 | 90.8 | 108.4 | 123.6 | 51.8 | 49.7 | 65.6 | 67.6 | 72.1 | 54.9 | 52.7 |
| September | 27.8 | 66.2 | 76.0 | 78.9 | 45.2 | 39.6 | 91.3 | 47.5 | 40.5 | 47.1 | 47.3 |
| October | 17.2 | 46.4 | 61.5 | 69.0 | 38.8 | 30.1 | 56.1 | 71.1 | 26.1 | 21.7 | 36.7 |
| November | 17.8 | 54.7 | 78.4 | 85.0 | 19.3 | 18.3 | 17.8 | 15.9 | 15.5 | 32.7 | 35.9 |
| December | 20.8 | 42.8 | 79.2 | 110.2 | 20.4 | 30.0 | 28.1 | 10.5 | 15.0 | 14.0 | 14.2 |
| Total 3/ | 513.0 | 660.2 | 852.9 | 1,082.3 | 602.5 | 508.5 | 566.1 | 666.1 | 347.6 | 360.0 | 397.9 |

1/ Excludes meal made from shellfish.
2/ Preliminary.
3/ Figures may not add to total because of rounding.

Table 2.--U.S. production of fish meal by month, 1965-76 1/

| Month | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 2/ | 1976 2/ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Thousand short tons | | | | | | | | | | | |
| January | 3.2 | 2.8 | 5.7 | 2.5 | 2.8 | 3.9 | 4.6 | 6.3 | 3.0 | 5.9 | 6.7 | 6.6 |
| February | 2.9 | 2.3 | 3.9 | 2.7 | 3.9 | 4.8 | 3.5 | 4.7 | 3.5 | 5.9 | 4.6 | |
| March | 3.8 | 5.7 | 4.9 | 4.5 | 4.7 | 5.9 | 4.4 | 5.5 | 5.0 | 6.5 | 5.4 | |
| April | 11.3 | 11.3 | 10.1 | 11.8 | 14.7 | 8.0 | 13.8 | 12.9 | 12.6 | 13.3 | 10.8 | |
| May | 25.1 | 20.3 | 17.2 | 19.1 | 31.8 | 26.5 | 30.2 | 37.0 | 24.2 | 31.8 | 35.7 | |
| June | 48.6 | 36.9 | 33.5 | 30.7 | 35.4 | 46.5 | 58.1 | 38.6 | 38.7 | 52.9 | 42.4 | |
| July | 50.1 | 36.5 | 36.4 | 44.2 | 40.2 | 50.7 | 51.7 | 42.5 | 56.8 | 61.4 | 53.4 | |
| August | 42.0 | 31.4 | 33.6 | 36.2 | 33.5 | 39.4 | 51.0 | 52.4 | 51.2 | 49.8 | 38.4 | |
| September | 21.1 | 23.3 | 20.3 | 29.6 | 35.9 | 28.7 | 28.4 | 29.6 | 35.1 | 25.4 | 33.5 | |
| October | 12.3 | 11.0 | 11.4 | 20.2 | 19.1 | 22.4 | 19.0 | 24.9 | 21.1 | 13.8 | 23.3 | |
| November | 12.1 | 18.9 | 15.4 | 14.3 | 12.7 | 12.3 | 13.3 | 13.6 | 14.2 | 14.2 | 13.3 | |
| December | 9.8 | 12.0 | 9.0 | 11.0 | 9.5 | 7.7 | 4.8 | 6.1 | 13.8 | 10.7 | 11.7 | |
| Total 3/ | 242.3 | 212.4 | 201.4 | 226.6 | 244.1 | 257.0 | 282.9 | 274.1 | 279.1 | 291.6 | 279.5 | |

1/ Excludes meal made from shellfish.
2/ Preliminary.
3/ Figures may not add to total because of rounding.

Table 3.--U.S. fish meal production by raw material source, 1974, 1975, and 1970-74 average.

| Time period | Source | | | | Total 2/ |
|---|---|---|---|---|---|
| | Menhaden 1/ | Anchovy | Tuna and mackerel | Unclassified | |
| | Thousand short tons | | | | |
| 1974 | | | | | |
| January-September | 189.1 | 5.5 | 36.4 | 21.9 | 252.9 |
| October | 7.1 | 1.4 | 3.9 | 1.5 | 13.8 |
| November | 4.6 | 4.2 | 4.3 | 1.1 | 14.2 |
| December | 3.1 | 3.0 | 3.7 | 1.0 | 10.7 |
| Total 2/ | 203.9 | 14.1 | 48.2 | 25.5 | 291.6 |
| 1975 | | | | | |
| January-September | 170.4 | 13.7 | 27.7 | 19.4 | 231.2 |
| October | 12.7 | 5.3 | 3.2 | 2.1 | 23.3 |
| November | 5.5 | 3.6 | 2.9 | 1.3 | 13.3 |
| December | 2.8 | 5.1 | 3.0 | 0.8 | 11.7 |
| Total 2/ | 191.4 | 27.7 | 36.8 | 23.6 | 279.5 |
| 1970-74 average | 199.2 | 14.2 | 38.3 | 25.2 | 276.9 |

1/ May include small quantities made from other species.
2/ Figures may not add to total because of rounding.
Note: Data for 1975 subject to revision. Data exclude meal made from shellfish.

Table 4.--Menhaden landings by area, 1974, 1975, and 1970-74 average.

| Area | 1974 | 1975 1/ | 1970-74 average |
|---|---|---|---|
| | Million pounds | | |
| Atlantic Coast | 618.2 | 551.2 | 636.3 |
| Gulf Coast | 1,295.0 | 1,196.2 | 1,260.3 |
| Total 2/ | 1,913.2 | 1,747.3 | 1,896.7 |

1/ Preliminary.
2/ Figures may not add to total because of rounding.

Table 5.--Menhaden meal production by area, 1974, 1975, and 1970-74 average

| Area | 1974 | 1975 1/ | 1970-74 average |
|---|---|---|---|
| | Thousand short tons | | |
| Atlantic Coast | 66.9 | 63.3 | 69.3 |
| Gulf Coast | 137.0 | 128.2 | 129.9 |
| Total 1/ | 203.9 | 191.4 | 199.2 |

1/ Preliminary.
2/ Figures may not add to total because of rounding.

Table 6.--U.S. imports of fish meal by month, 1965-75

| Month | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Thousand short tons | | | | | | | | | | |
| January | 16.0 | 15.3 | 42.0 | 90.9 | 27.2 | 20.1 | 33.3 | 18.3 | 7.3 | 0.9 | 1.7 |
| February | 25.5 | 25.2 | 44.4 | 49.0 | 27.6 | 21.4 | 15.8 | 48.1 | 1.6 | 1.0 | 0.7 |
| March | 53.7 | 33.6 | 74.1 | 54.7 | 45.2 | 19.4 | 13.2 | 45.6 | 0.4 | 1.5 | 1.5 |
| April | 39.7 | 39.5 | 50.0 | 62.3 | 58.0 | 54.9 | 31.8 | 23.9 | 6.3 | 2.1 | 17.1 |
| May | 30.5 | 35.0 | 39.0 | 70.4 | 45.1 | 34.7 | 10.5 | 59.2 | 2.4 | 2.1 | 2.4 |
| June | 44.5 | 45.7 | 40.6 | 80.9 | 53.6 | 33.5 | 30.2 | 51.4 | 5.2 | 1.5 | 3.6 |
| July | 18.7 | 49.0 | 47.6 | 91.7 | 36.8 | 10.2 | 5.8 | 59.4 | 11.5 | 2.7 | 24.8 |
| August | 13.9 | 59.4 | 74.8 | 87.4 | 18.3 | 10.3 | 14.7 | 15.3 | 20.9 | 5.1 | 14.3 |
| September | 6.8 | 43.3 | 55.7 | 49.3 | 9.3 | 10.9 | 62.9 | 17.8 | 5.3 | 21.8 | 13.8 |
| October | 4.8 | 35.4 | 50.1 | 48.8 | 19.7 | 7.8 | 37.6 | 46.2 | 5.0 | 7.9 | 13.4 |
| November | 5.7 | 35.7 | 63.0 | 70.7 | 6.6 | 6.0 | 4.5 | 2.2 | 1.4 | 18.5 | 22.6 |
| December | 11.0 | 30.8 | 70.2 | 99.3 | 11.0 | 22.3 | 23.3 | 4.5 | 1.2 | 3.3 | 2.5 |
| Total 1/ | 270.7 | 447.8 | 651.5 | 855.3 | 358.4 | 251.5 | 283.2 | 392.0 | 68.6 | 68.3 | 118.4 |

1/ Figures may not add to total because of rounding.

Table 7.--U.S. imports of fish meal by country of origin, 1974-75, and 1965-74 average.

| Time period | Country of origin | | | | | Total 1/ |
|---|---|---|---|---|---|---|
| | Canada | Chile | Peru | Norway | Other | |
| | Thousand short tons | | | | | |
| 1974 | | | | | | |
| January-August | 16.6 | - | - | - | 0.2 | 16.8 |
| September | 4.8 | - | 13.7 | 3.3 | - | 21.8 |
| October | 4.0 | - | - | 3.9 | 0.1 | 8.0 |
| November | 2.7 | - | 15.7 | - | - | 18.4 |
| December | 2.2 | - | - | - | 1.1 | 3.3 |
| Total 1/ | 30.3 | | 29.4 | 7.2 | 1.4 | 68.3 |
| Percent | 44.4 | | 43.0 | 10.5 | 2.0 | 100.0 |
| 1975 | | | | | | |
| January-August | 20.4 | 5.0 | 39.4 | - | 1.2 | 66.0 |
| September | 5.1 | - | 8.7 | - | - | 13.8 |
| October | 4.1 | - | 9.3 | - | - | 13.4 |
| November | 2.3 | 2.3 | 18.1 | - | - | 22.6 |
| December | 2.0 | 0.4 | - | - | - | 2.5 |
| Total 1/ | 34.0 | 7.7 | 75.5 | - | 1.2 | 118.3 |
| Percent | 28.7 | 6.5 | 63.8 | - | 1.0 | 100.0 |
| 1965-74 average | 48.2 | 31.1 | 255.9 | 23.5 | 5.9 | 364.7 |
| Percent | 13.2 | 8.5 | 70.2 | 6.4 | 1.6 | 100.0 |

1/ Figures may not add to total because of rounding.

Table 8.--U.S. exports of fish meal, by month, 1972-75

| Month | 1972 | 1973 | 1974 | 1975 |
|---|---|---|---|---|
| | -Thousand short tons- | | | |
| January | - | 3.0 | 8.9 | 2.0 |
| February | 0.3 | 1.6 | 8.8 | 3.4 |
| March | 0.3 | 2.6 | 1.1 | 0.9 |
| April | 0.1 | 3.0 | 3.9 | 0.6 |
| May | - | 0.5 | 1.9 | 0.3 |
| June | 0.1 | 3.2 | 3.3 | 1.2 |
| July | 0.3 | 2.4 | 7.3 | 0.1 |
| August | 0.4 | 1.1 | 8.9 | 0.1 |
| September | 1.9 | 0.8 | 8.0 | 0.4 |
| October | 1.7 | 3.5 | 1.7 | 0.8 |
| November | 1.8 | 3.7 | 0.6 | 1.2 |
| December | 3.6 | 11.3 | 1.0 | 0.9 |
| Total 1/ | 10.5 | 36.7 | 55.5 | 11.8 |

1/ Figures may not add to total because of rounding.

Table 9.--Production of fish meal in seven major exporting countries, January-September, 1974-75

| Country | 1974 | 1975 | Percentage of total production 1974 | 1975 |
|---|---|---|---|---|
| | -Thousand metric tons- | | - - - - - - Percent - - - - - - | |
| Angola | 45.7 | 52.5 1/ | 2.8 | 3.2 |
| Chile | 114.7 | 87.4 | 7.1 | 5.3 |
| Denmark 2/ | 247.4 | 248.5 | 15.2 | 15.0 |
| Iceland | 94.3 | 111.2 | 5.8 | 6.7 |
| Norway | 283.3 | 249.0 | 17.5 | 15.0 |
| Peru | 585.3 | 667.3 | 36.1 | 40.2 |
| South Africa | 251.1 | 244.5 | 15.5 | 14.7 |
| Total | 1,621.8 | 1,660.4 | 100.0 | 100.0 |

1/ The first 8 months.
2/ Estimated.

Source: Fish meal Exporters Organization and Danish Ministry of Fisheries Monthly "Oversight Over Fiskeriet" (Landings of fish for reduction).

Table 10.--Export of fish meal from FEO 1/, countries
January-September, 1974-75

| Country | 1974 | 1975 | Percentage of total exports | |
|---|---|---|---|---|
| | | | 1974 | 1975 |
| | -Thousand metric tons- | | - - - - - - Percent - - - - - - | |
| Angola | 39.3 | 42.8 2/ | 5.0 | 3.7 |
| Chile | 78.9 | 84.2 | 10.0 | 7.2 |
| Iceland | 55.4 | 98.2 | 7.0 | 8.4 |
| Norway | 197.5 | 201.2 | 24.9 | 17.2 |
| Peru | 389.9 | 620.4 | 49.2 | 53.0 |
| South Africa | 30.6 | 122.8 | 3.9 | 10.5 |
| Total 3/ | 791.6 | 1,169.6 | 100.0 | 100.0 |

1/ Fish Meal Exporters Organization.
2/ The first 8 months. No figures received for September.
3/ Figures may not add to total because of rounding.

Table 11.--FEO exports of fish meal by country of destination,
January-September 1974-75

| Country | FEO exports | | Percentage of total FEO exports | |
|---|---|---|---|---|
| | 1974 | 1975 | 1974 | 1975 |
| | -Thousand metric tons- | | - - - - - - Percent - - - - - - | |
| Belgium/Holland | 53.7 | 47.2 | 6.8 | 4.0 |
| France | 12.8 | 26.2 | 1.6 | 2.2 |
| Germany, West | 191.4 | 210.4 | 24.2 | 18.0 |
| Italy | 27.5 | 57.2 | 3.5 | 4.9 |
| Portugal | 9.1 | 16.7 | 1.1 | 1.4 |
| Spain | 18.8 | 16.6 | 2.4 | 1.4 |
| United Kingdom | 60.3 | 78.9 | 7.6 | 6.7 |
| East Europe countries | 264.7 | 325.3 | 33.4 | 27.8 |
| Scandinavian countries 1/ | 41.3 | 58.5 | 5.2 | 5.0 |
| United States 2/ | 18.9 | 56.8 | 2.4 | 4.9 |
| Latin American countries 3/ | 21.2 | 86.4 | 2.7 | 7.4 |
| Iran | 6.9 | 17.2 | 0.9 | 1.5 |
| Japan | 14.5 | 49.8 | 1.8 | 4.3 |
| Australia | 10.2 | 4.6 | 1.3 | 0.4 |
| Taiwan | 11.2 | 27.8 | 1.4 | 2.4 |
| Other | 29.2 | 90.0 | 3.7 | 7.7 |
| Total 4/ | 791.7 | 1,169.6 | 100.0 | 100.0 |

1/ Denmark, Finland, and Sweden.
2/ Based on figures reported by FEO countries.
3/ Includes Cuba.
4/ Figures may not add to total bacause of rounding.

Table 12.--FEO fish meal stocks held October 1, 1974-75

| Country | 1974 | 1975 | Percentage of FEO total stocks | |
|---|---|---|---|---|
| | | | 1974 | 1975 |
| | Thousand metric tons | | Percent | |
| Angola | 16.8 | 20.8 1/ | 3.0 | 4.5 |
| Chile | 39.8 | 28.8 | 7.1 | 6.3 |
| Iceland | 38.4 | 12.6 | 6.9 | 2.7 |
| Norway | 159.5 | 159.4 | 28.5 | 34.7 |
| Peru | 168.4 | 167.1 | 30.1 | 36.4 |
| South Africa | 137.0 | 70.8 | 24.5 | 15.4 |
| Total | 559.9 | 459.5 | 100.0 | 100.0 |

1/ Stocks held on 31 of August.

Table 13.--Broiler chick placements in 21 States, and average broiler price at the farm by month, 1973-76

| Month | 1973 | | 1974 | | 1975 | | 1976 | |
|---|---|---|---|---|---|---|---|---|
| | Chicks placed | Broiler price | Chicks placed | Broiler price | Chicks placed | Broiler price | Chicks placed | Broiler price |
| | Million | Cents/lb | Million | Cents/lb | Million | Cents/lb | Million | Cents/lb |
| January | 283.6 | 17.2 | 298.9 | 21.5 | 272.5 | 24.2 | 299.7 | 24.3 |
| February | 231.3 | 19.8 | 242.8 | 23.4 | 227.6 | 24.6 | | |
| March | 247.1 | 23.2 | 254.1 | 22.2 | 237.1 | 23.7 | | |
| April | 253.6 | 25.2 | 252.0 | 21.0 | 240.0 | 23.4 | | |
| May | 314.6 | 23.8 | 314.3 | 20.5 | 300.3 | 24.6 | | |
| June | 247.6 | 24.3 | 244.3 | 19.0 | 242.0 | 27.4 | | |
| July | 220.1 | 27.6 | 215.4 | 20.5 | 231.2 | 30.3 | | |
| August | 288.9 | 36.5 | 262.3 | 20.9 | 286.9 | 28.8 | | |
| September | 217.0 | 29.7 | 197.5 | 22.8 | 222.6 | 29.8 | | |
| October | 217.4 | 23.7 | 188.8 | 22.8 | 214.9 | 28.8 | | |
| November | 278.0 | 19.4 | 248.1 | 24.2 | 275.2 | 27.2 | | |
| December | 230.2 | 20.0 | 217.8 | 21.9 | 233.6 | 24.0 | | |
| Total placements and average price 1/ | 3,029.7 | 24.2 | 2,936.3 | 21.7 | 2983.7 | 26.4 | | |

1/ Figures may not add to total because of rounding.

Source: Delmarva Broiler Chick Report, U.S. Department of Agriculture, Statistical Reporting Service, and Poultry and Egg Situation, U.S. Department of Agriculture, Economic Research Service.

Table 14.--Average monthly price of soybean meal 1/, at Decatur, Ill., 1965-76

| Month | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Dollars per short ton | | | | | | | | | | | |
| January | 75.40 | 85.00 | 89.30 | 81.30 | 79.50 | 97.60 | 86.10 | 89.40 | 210.40 | 192.40 | 137.90 | 136.25 |
| February | 77.20 | 86.20 | 85.20 | 80.20 | 78.40 | 95.60 | 82.40 | 91.50 | 240.00 | 175.20 | 126.90 | 139.25 |
| March | 76.10 | 80.00 | 83.70 | 80.40 | 80.10 | 79.60 | 82.00 | 98.60 | 224.90 | 160.40 | 126.50 | |
| April | 78.40 | 82.40 | 80.70 | 80.90 | 81.30 | 83.10 | 80.50 | 101.80 | 228.40 | 130.40 | 131.80 | |
| May | 77.70 | 89.00 | 80.10 | 81.90 | 84.90 | 78.90 | 84.80 | 103.30 | 346.60 | 120.00 | 129.00 | |
| June | 85.10 | 101.00 | 87.20 | 89.10 | 88.20 | 82.70 | 87.60 | 104.90 | 450.00 | 110.50 | 139.75 | |
| July | 86.00 | 104.10 | 85.00 | 92.00 | 86.20 | 92.50 | 90.00 | 111.60 | 346.00 | 147.10 | 134.20 | |
| August | 80.50 | 106.10 | 86.90 | 94.50 | 84.10 | 92.50 | 84.20 | 111.00 | 316.25 | 165.90 | 144.20 | |
| September | 89.20 | 97.90 | 87.60 | 95.50 | 82.70 | 88.20 | 80.00 | 117.90 | 231.90 | 147.25 | 144.30 | |
| October | 80.80 | 91.50 | 78.20 | 85.30 | 82.10 | 83.80 | 80.80 | 118.60 | 165.60 | 179.80 | 135.90 | |
| November | 84.50 | 86.40 | 78.10 | 79.40 | 76.90 | 82.50 | 79.20 | 133.00 | 179.00 | 154.00 | 126.80 | |
| December | 78.30 | 92.70 | 79.40 | 79.40 | 90.40 | 88.20 | 88.50 | 195.00 | 233.00 | 155.80 | 132.30 | |
| Average | 2/ 80.77 | 2/ 91.86 | 2/ 83.45 | 2/ 84.99 | 3/ 82.80 | 3/ 86.80 | 3/ 83.90 | 3/ 115.70 | 3/ 231.90 | 3/ 153.50 | 2/ 134.12 | |

1/ 50 percent protein, bulk.
2/ Simple average.
3/ Average weighted by monthly production of soybean meal and cake.

Source: Feed Market News, U.S. Department of Agriculture, Consumer and Marketing Service, Grain Division.

Table 15.--Average monthly price of menhaden meal 1/, East Coast and Gulf plants, 1965-76

| Month | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Dollars per short ton | | | | | | | | | | | |
| January | 144.15 | 2/179.80 | 153.10 | 2/131.00 | 149.25 | 195.90 | 2/186.50 | 164.70 | 2/389.50 | 2/532.50 | 263.12 | 2/ 268.75 |
| February | 146.25 | 2/172.50 | 2/154.00 | 2/131.00 | 153.00 | 196.50 | 2/184.20 | 165.00 | 2/410.10 | 2/452.50 | 231.25 | 2/ 270.00 |
| March | 150.00 | 2/170.60 | 2/154.00 | 2/131.00 | 153.00 | 189.90 | 180.00 | 164.70 | 2/424.10 | 403.75 | 220.50 | |
| April | 153.00 | 2/163.00 | 135.00 | 2/131.00 | 2/154.00 | 197.50 | 174.10 | 168.20 | 2/409.50 | 342.00 | 238.75 | |
| May | 156.00 | 2/153.80 | 135.80 | 2/131.00 | 174.00 | 197.50 | 169.20 | 181.10 | 457.50 | 273.10 | 226.87 | |
| June | 160.90 | 160.35 | 139.00 | 149.00 | 172.60 | 193.80 | 153.60 | 175.00 | 508.10 | 263.00 | 218.75 | |
| July | 170.25 | 164.00 | 137.40 | 149.65 | 171.90 | 179.00 | 150.10 | 178.50 | 497.10 | 243.50 | 234.50 | |
| August | 172.10 | 169.00 | 137.10 | 149.00 | 168.90 | 172.90 | 159.20 | 189.70 | 473.90 | 3/314.35 | 246.25 | |
| September | 175.00 | 166.20 | 136.75 | 145.00 | 171.60 | 177.80 | 160.30 | 193.90 | 456.60 | 275.50 | 259.00 | |
| October | 185.40 | 160.00 | 136.00 | 141.60 | 189.30 | 187.50 | 160.30 | 210.20 | 425.00 | 301.25 | 266.25 | |
| November | 186.00 | 151.55 | 2/132.00 | 140.50 | 200.10 | 189.10 | 161.80 | 227.50 | 2/436.25 | 297.50 | 2/269.38 | |
| December | 186.00 | 153.10 | 2/131.60 | 145.10 | 199.25 | 187.50 | 162.90 | 237.50 | 2/537.50 | 281.00 | 2/266.25 | |
| Average 4/ | 168.50 | 161.03 | 136.53 | 145.27 | 174.33 | 184.52 | 158.00 | 185.50 | 478.19 | 276.07 | 239.14 | |

1/ 60 percent protein, bulk as quoted by brokers at New York City.
2/ Nominal price.
3/ Asking price.
4/ Average weighted by monthly production of menhaden meal.

Table 16.--Average monthly price of Peruvian fish meal 1/, f.o.b. East Coast ports, 1965-76

| Month | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Dollars per short ton | | | | | | | | | | | |
| January | 141.60 | 173.00 | 148.20 | 120.20 | 139.50 | 197.50 | 184.10 | 163.30 | 2/347.25 | - 3/ | 262.50 | 270.00 |
| February | 144.90 | 170.90 | 140.00 | 119.00 | 141.00 | 183.50 | 178.90 | 163.60 | 2/406.25 | - 3/ | 231.90 | 270.62 |
| March | 142.70 | 165.80 | 134.50 | 116.00 | 140.50 | 192.70 | 177.30 | 164.00 | 2/411.90 | - 3/ | 220.50 | |
| April | 148.40 | 153.75 | 130.50 | 115.20 | 146.80 | 198.00 | 177.00 | 171.50 | 2/405.00 | - 3/ | 240.00 | |
| May | 153.75 | 155.40 | 127.70 | 131.90 | 161.00 | 202.10 | 169.40 | 180.60 | 2/480.00 | - 3/ | 223.12 | |
| June | 166.50 | 155.50 | 131.25 | 140.00 | 168.00 | 195.80 | 156.80 | 176.10 | 3/ | - 3/ | 216.25 | |
| July | 172.90 | 161.00 | 131.60 | 143.20 | 173.50 | 185.90 | 154.50 | 180.90 | 493.75 | - 3/ | 226.25 | |
| August | 181.00 | 161.00 | 131.50 | 137.90 | 172.10 | 179.10 | 160.10 | 192.00 | 487.50 | - 3/ | 255.83 | |
| September | 182.50 | 152.25 | 128.90 | 132.75 | 172.00 | 184.00 | 159.00 | 194.90 | 3/ - | - 3/ | 259.00 | |
| October | 184.90 | 143.10 | 124.30 | 129.20 | 193.40 | 189.80 | 157.80 | 210.80 | 3/ - | - 3/ | 265.00 | |
| November | 186.00 | 144.80 | 121.00 | 131.00 | 202.40 | 187.80 | 157.50 | 231.00 | 3/ - | 297.50 | 265.00 | |
| December | 180.25 | 152.50 | 121.00 | 138.10 | 204.00 | 186.40 | 158.40 | 241.00 | 3/ - | 278.50 | 265.00 | |
| Average 4/ | 154.63 | 156.40 | 130.15 | 130.95 | 157.10 | 194.45 | 166.10 | 179.20 | 451.70 | 287.30 | 249.72 | |

1/ 65 percent protein, f.o.b. East Coast ports, bagged to July 1970, and bulk since August 1971.
2/ Nominal price.
3/ Supplies exhausted, no quotes.
4/ Average weighted by monthly imports of Peruvian fish meal.

Table 17.--Average monthly price of tuna and mackerel meal 1/, at Los Angeles, 1965-76

| Month | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Dollars per short ton | | | | | | | | | | | |
| January | 136.20 | 174,60 | 144.00 | 123.00 | 132.60 | 172.50 | 150.00 | 135.00 | 187.00 | 453.00 | 240.00 | 219.27 |
| February | 137.40 | 174.60 | 144.00 | 124.80 | 135.00 | 172.50 | 150.00 | 137.60 | 2/ | 390.00 | 226.87 | 225.75 |
| March | 139.20 | 167.40 | 142.80 | 124.80 | 133.80 | 177.00 | 150.00 | 135.00 | 360.00 | 301.88 | 211.50 | |
| April | 141.60 | 148.80 | 139.80 | 115.50 | 127.80 | 178.50 | 150.00 | 138.40 | 390.00 | 274.50 | 4/225.00 | |
| May | 146.40 | 141.00 | 127.20 | 117.00 | 138.60 | 180.00 | 147.60 | 142.80 | 393.80 | 281.25 | 4/226.50 | |
| June | 150.60 | 138.00 | 124.80 | 121.50 | 145.80 | 180.00 | 144.00 | 147.00 | 468.75 | 242.25 | 4/231.06 | |
| July | 157.20 | 141.60 | 123.00 | 127.50 | 147.00 | 180.00 | 138.00 | 154.00 | 474.00 | 207.90 | 5/233.21 | |
| August | 166.20 | 144.00 | 123.00 | 132.00 | 147.00 | 168.00 | 135.00 | 172.50 | 480.00 | 3/269.25 | 5/239.63 | |
| September | 174.00 | 144.00 | 121.80 | 132.00 | 150.00 | 165.00 | 135.00 | 174.00 | 408.75 | 222.00 | 5/238.63 | |
| October | 174.60 | 144.00 | 120.00 | 132.00 | 168.00 | 162.00 | 135.00 | 176.40 | 309.00 | 240.00 | 5/220.50 | |
| November | 174.60 | 144.00 | 120.00 | 132.00 | 177.00 | 161.00 | 135.00 | 181.40 | 345.00 | 240.00 | 5/216.00 | |
| December | 174.60 | 144.00 | 120.60 | 132.00 | 172.20 | 159.00 | 127.50 | 187.00 | 455.62 | 240.00 | 5/219.82 | |
| Average 6/ | 157.75 | 148.10 | 129.60 | 125.87 | 146.15 | 171.30 | 141.10 | 155.90 | 396.35 | 270.60 | 227.41 | |

1/ 60 percent protein, bagged to 1970, and bulk since 1971, as quoted by brokers at Los Angeles.
2/ No quotes.
3/ Asking price.
4/ Tuna only
5/ Tuna only converted to 60 percent protein basis.
6/ Average weighted by monthly production.

Table 18.--Ratio of Peruvian fish meal price 1/ to soybean meal price 2/, by month, 1965-76

| Month | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Price ratio | | | | | | | | | | | |
| January | 1.88 | 2.04 | 1.66 | 1.48 | 1.75 | 2.02 | 2.14 | 1.83 | 1.65 | 3/ 2.77 | 1.90 | 1.98 |
| February | 1.88 | 1.98 | 1.64 | 1.48 | 1.80 | 1.92 | 2.17 | 1.79 | 1.69 | 3/ 2.58 | 1.83 | 1.94 |
| March | 1.88 | 2.07 | 1.61 | 1.44 | 1.75 | 2.42 | 2.16 | 1.67 | 1.83 | 3/ 2.52 | 1.74 | |
| April | 1.89 | 1.86 | 1.62 | 1.42 | 1.80 | 2.38 | 2.20 | 1.68 | 1.77 | 3/ 2.62 | 1.82 | |
| May | 1.98 | 1.75 | 1.59 | 1.61 | 1.90 | 2.56 | 2.00 | 1.75 | 1.38 | 3/ 2.28 | 1.73 | |
| June | 1.96 | 1.54 | 1.50 | 1.57 | 1.90 | 2.37 | 1.79 | 1.68 | 3/ 1.13 | 3/ 2.38 | 1.55 | |
| July | 2.01 | 1.55 | 1.55 | 1.56 | 2.01 | 2.01 | 1.72 | 1.62 | 1.43 | 3/ 1.66 | 1.69 | |
| August | 2.25 | 1.52 | 1.51 | 1.46 | 2.05 | 1.94 | 1.90 | 1.73 | 1.54 | 3/ 1.89 | 1.78 | |
| September | 2.04 | 1.56 | 1.47 | 1.39 | 2.08 | 2.09 | 1.99 | 1.65 | 3/ 1.97 | 3/ 1.87 | 1.79 | |
| October | 2.29 | 1.56 | 1.59 | 1.51 | 2.36 | 2.26 | 1.95 | 1.78 | 3/ 2.42 | 3/ 1.68 | 1.95 | |
| November | 2.20 | 1.68 | 1.55 | 1.65 | 2.63 | 2.28 | 1.99 | 1.74 | 3/ 2.43 | 1.93 | 2.09 | |
| December | 2.30 | 1.64 | 1.52 | 1.74 | 2.26 | 2.11 | 1.79 | 1.24 | 3/ 2.41 | 1.79 | 2.00 | |
| Average | 1.92 | 1.70 | 1.56 | 1.54 | 1.90 | 2.24 | 1.98 | 1.55 | 3/ 2.06 | 3/ 1.80 | 1.86 | |

1/ 65 percent protein, f.o.b. East Coast ports, as quoted at New York City.
2/ 50 percent protein, bulk, wholesale at Decatur, Ill.
3/ Ratio of menhaden meal price to soybean meal price.

Table 19.--Supplies of fish solubles available in the United States: production plus imports, by month, 1965-76

| Month | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 1/ | 1976 1/ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Thousand short tons | | | | | | | | | | | |
| January | 1.9 | 1.6 | 2.1 | 0.6 | 0.6 | 1.3 | 1.0 | 2.5 | 0.5 | 1.9 | 3.3 | 3.2 |
| February | 2.8 | 1.8 | 1.2 | 0.7 | 1.4 | 2.1 | 1.2 | 2.1 | 1.2 | 1.4 | 1.5 | |
| March | 1.3 | 3.8 | 2.0 | 2.3 | 1.6 | 2.5 | 1.5 | 2.5 | 1.3 | 3.3 | 2.8 | |
| April | 3.9 | 5.0 | 6.6 | 4.0 | 5.0 | 3.1 | 5.1 | 5.3 | 5.8 | 6.3 | 6.9 | |
| May | 10.8 | 9.5 | 7.2 | 6.3 | 11.3 | 9.8 | 13.0 | 14.4 | 10.6 | 13.1 | 20.3 | |
| June | 18.0 | 15.4 | 13.6 | 10.8 | 12.6 | 15.7 | 22.6 | 19.2 | 19.8 | 25.0 | 19.9 | |
| July | 18.7 | 14.1 | 12.5 | 14.4 | 11.7 | 18.8 | 19.4 | 21.7 | 25.8 | 27.9 | 21.2 | |
| August | 18.2 | 12.8 | 12.4 | 11.8 | 10.5 | 14.0 | 19.7 | 28.2 | 28.3 | 24.4 | 14.0 | |
| September | 9.1 | 9.9 | 6.8 | 9.0 | 12.8 | 11.3 | 11.4 | 12.9 | 18.4 | 12.0 | 14.2 | |
| October | 6.8 | 5.4 | 5.1 | 6.1 | 6.5 | 9.8 | 8.0 | 14.4 | 10.8 | 7.5 | 14.8 | |
| November | 5.8 | 5.8 | 5.5 | 4.3 | 4.0 | 4.0 | 6.5 | 8.3 | 8.3 | 9.2 | 4.0 | |
| December | 2.7 | 2.6 | 3.5 | 3.2 | 3.9 | 2.9 | 1.7 | 2.9 | 6.8 | 5.4 | 4.7 | |
| Total 2/ | 100.0 | 87.7 | 78.3 | 73.6 | 81.9 | 95.1 | 111.2 | 134.5 | 137.7 | 137.3 | 127.9 | |

1/ Preliminary.
2/ Figures may not add to total because of rounding.

Table20.--Average monthly price of menhaden solubles 1/, f.o.b. East Coast plants, 1965-76

| Month | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Dollars per short ton | | | | | | | | | | | |
| January | 58.62 | 66.25 | 80.85 | 60.50 | 51.25 | 51.25 | 51.25 2/ | 40.40 | 80.50 | 159.00 | 86.25 | 4/ 75.00 |
| February | 59.38 | 66.50 | 79.00 | 63.75 | 51.25 | 50.90 | 51.25 | 38.05 | 105.00 | 165.00 | 77.50 | 4/ 75.00 |
| March | 61.25 | 66.71 | 70.75 | 61.25 | 49.40 | 51.75 | 51.25 | 35.90 | 115.00 | 3/ 132.50 | 75.00 | |
| April | 56.25 | 68.75 | 64.62 | 56.25 | 47.75 | 52.80 | 50.60 | 35.90 | 111.00 | 3/ 129.16 | 73.75 | |
| May | 53.75 | 68.75 | 64.00 | 54.06 | 47.50 2/ | 54.70 | 48.90 | 38.90 | 126.25 | 3/ 103.75 | 71.25 | |
| June | 55.75 | 68.75 | 64.38 | 53.75 | 49.75 2/ | 54.30 | 49.00 | 40.10 | 142.50 | 3/ 94.75 | 64.06 | |
| July | 56.85 | 68.75 | 64.06 | 53.50 | 51.25 | 51.90 | 48.10 | 39.75 | 139.00 | 83.00 | 63.50 | |
| August | 60.00 | 68.75 | 62.85 | 52.50 | 49.40 | 50.45 | 47.15 | 40.60 | 133.75 | 86.25 | 61.88 | |
| September | 61.25 | 72.50 | 61.25 | 51.88 | 48.75 | 48.70 | 45.05 | 42.80 | 128.50 | 80.50 | 66.00 | |
| October | 63.94 | 78.75 | 60.75 | 51.50 | 50.60 | 50.60 | 43.10 | 52.75 | 3/ 125.00 | 85.00 | 71.88 | |
| November | 65.25 | 79.25 | 60.00 | 51.56 | 51.25 | 50.65 | 42.70 | 66.90 | 3/ 131.25 | 85.00 | 4/ 73.12 | |
| December | 66.25 | 81.88 | 60.00 | 51.25 | 52.50 | 49.70 | 42.50 | 72.50 | 3/ 150.00 | 84.00 | 4/ 74.69 | |
| Average 5/ | 58.28 | 70.74 | 63.24 | 52.93 | 49.60 | 51.88 | 47.30 | 43.45 | 134.88 | 89.71 | 66.40 | |

1/ In tank cars; prices quoted by brokers at New York City.
2/ Gulf Coast plants f.o.b. only.
3/ Asking price.
4/ Nominal price.
5/ Weighted average.
6/ Preliminary.

Table 21.--U.S. production of fish oil 1/, by month, 1965-76

| Month | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 2/ 1975 | 2/ 1976 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Million pounds | | | | | | | | | | | |
| January | 0.6 | 0.4 | 1.2 | 0.6 | 0.6 | 0.6 | 1.5 | 1.4 | 0.4 | 0.9 | 1.8 | 1.8 |
| February | .5 | .2 | .6 | .3 | .6 | .6 | 0.6 | 0.9 | .4 | .7 | 0.6 | |
| March | .7 | 1.0 | .9 | .6 | .6 | .6 | .7 | .7 | .6 | .9 | .9 | |
| April | 10.6 | 5.4 | 3.6 | 4.2 | 6.1 | 3.0 | 11.6 | 4.8 | 4.7 | 7.0 | 3.7 | |
| May | 23.2 | 19.2 | 9.4 | 10.3 | 20.8 | 21.8 | 28.4 | 30.8 | 18.1 | 30.1 | 39.1 | |
| June | 41.6 | 34.6 | 20.5 | 22.0 | 28.0 | 39.9 | 57.3 | 28.0 | 37.2 | 46.9 | 39.5 | |
| July | 41.6 | 29.6 | 21.6 | 36.8 | 30.0 | 40.9 | 53.2 | 32.6 | 58.5 | 55.4 | 56.2 | |
| August | 37.8 | 22.4 | 22.4 | 31.1 | 26.7 | 41.1 | 55.8 | 45.5 | 50.9 | 54.1 | 36.5 | |
| September | 18.1 | 20.5 | 13.6 | 27.4 | 28.9 | 27.4 | 29.6 | 23.2 | 30.2 | 25.0 | 36.6 | |
| October | 9.5 | 7.7 | 9.3 | 21.0 | 13.8 | 19.4 | 17.3 | 15.2 | 15.3 | 7.3 | 20.7 | |
| November | 8.2 | 16.3 | 13.5 | 12.3 | 8.5 | 7.3 | 8.0 | 4.3 | 4.6 | 6.7 | 5.3 | |
| December | 3.1 | 6.8 | 5.8 | 6.5 | 5.1 | 3.0 | 1.3 | 1.2 | 3.7 | 3.2 | 4.6 | |
| Total 3/ | 195.5 | 164.0 | 122.4 | 173.1 | 169.8 | 205.8 | 265.4 | 188.4 | 224.6 | 238.0 | 245.6 | |

1/ Includes a small amount of whale and sperm oil to 1971.
2/ Preliminary.
3/ Figures may not add to total because of rounding.

Table 22.--U.S. exports of fish oil 1/, by month, 1965-76

| Month | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Million pounds | | | | | | | | | | | |
| January | 0.1 | 2.3 | 17.9 | 0.9 | 4.0 | 11.1 | 32.2 | 14.0 | 6.5 | 2.3 | 13.0 | |
| February | .1 | 4.2 | - | 6.0 | 8.9 | 0.4 | 4.9 | 10.3 | 11.0 | 1.1 | 0.1 | |
| March | 11.4 | 9.9 | 10.5 | 12.6 | 19.8 | 13.9 | 0.3 | 0.7 | 11.1 | 0.7 | .1 | |
| April | .1 | 0.1 | - | .1 | 21.1 | 4.3 | 6.1 | .9 | 0.5 | 0.4 | 4.7 | |
| May | .3 | 17.8 | 0.1 | - | 8.8 | 4.4 | 4.6 | 5.3 | 1.0 | 12.0 | .1 | |
| June | 18.1 | 12.9 | .8 | - | 15.5 | 2.4 | 10.9 | 11.0 | 25.2 | 28.0 | 33.8 | |
| July | 16.2 | 19.5 | 2.3 | .1 | 19.3 | 30.3 | 34.7 | 38.3 | 6.4 | 53.5 | 29.1 | |
| August | 21.2 | 6.1 | 24.8 | 7.0 | 24.7 | 31.1 | 43.1 | 2.0 | 72.6 | 35.1 | 33.9 | |
| September | 13.5 | - | 10.2 | 3.4 | 7.9 | 37.8 | 43.7 | 32.4 | 26.2 | 4.8 | 4.8 | |
| October | 10.8 | 4.3 | 5.7 | 11.4 | 5.7 | .2 | 4.4 | 38.0 | 59.2 | 49.6 | 14.2 | |
| November | .2 | .1 | 2.2 | 1.8 | 33.3 | 17.9 | 21.6 | 6.4 | 17.5 | 2.8 | 18.9 | |
| December | 11.8 | .1 | 2.3 | 21.8 | 27.0 | 4.9 | 23.4 | 33.8 | 11.7 | 8.8 | 39.2 | |
| Total 2/ | 103.8 | 77.3 | 76.8 | 65.1 | 196.1 | 158.8 | 229.9 | 193.2 | 248.9 | 199.1 | 191.9 | |

1/ Excluding whale oil.
2/ Figures may not add to total because of rounding.

Table23.--Industrial use of fish oil in the United States, by month, 1965-75 1/

| Month | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 2/ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Million pounds | | | | | | | | | | |
| January | 3.3 | 2.4 | 2.9 | 2.6 | 1.8 | 3.1 | 2.2 | 1.9 | 2.5 | 2.0 | 2.6 |
| February | 3.2 | 3.5 | 2.8 | 2.6 | 3.1 | 2.9 | 2.1 | 2.5 | 2.0 | 2.6 | 2.1 |
| March | 3.3 | 3.3 | 2.8 | 3.0 | 3.1 | 2.4 | 2.0 | 2.1 | 1.8 | 2.3 | 2.3 |
| April | 3.4 | 3.5 | 4.1 | 2.5 | 3.2 | 2.8 | 2.0 | 2.0 | 1.8 | 3.4 | 2.5 |
| May | 3.0 | 3.7 | 3.1 | 2.6 | 1.9 | 3.2 | 1.9 | 2.3 | 2.1 | 3.2 | 2.4 |
| June | 4.0 | 3.8 | 3.3 | 2.5 | 3.9 | 3.2 | 2.8 | 2.2 | 2.1 | 2.7 | 2.9 |
| July | 3.2 | 2.7 | 3.0 | 2.7 | 2.2 | 2.7 | 2.7 | 3.5 | 2.4 | 2.8 | 3.2 |
| August | 4.5 | 3.7 | 3.1 | 2.2 | 2.5 | 2.0 | 1.7 | 3.7 | 3.1 | 3.9 | 4.2 |
| September | 4.3 | 3.9 | 3.2 | 2.8 | 3.3 | 2.8 | 3.0 | 2.6 | 1.8 | 3.3 | 4.0 |
| October | 3.9 | 2.5 | 2.4 | 2.5 | 3.0 | 2.4 | 1.4 | 2.6 | 1.8 | 3.6 | 3.9 |
| November | 4.4 | 2.7 | 2.5 | 2.4 | 3.3 | 1.9 | 1.9 | 2.4 | 2.0 | 2.7 | 3.7 |
| December | 4.1 | 3.1 | 2.6 | 1.6 | 2.8 | 2.0 | 2.9 | 2.2 | 1.9 | 2.4 | 3.0 |
| Total 3/ | 44.5 | 38.8 | 35.8 | 30.0 | 34.1 | 31.4 | 26.5 | 29.8 | 25.5 | 35.0 | 36.8 |

1/ Includes marine mammal oil other than sperm oil and some hydrogenated fat (vegetable and animal) and other fats and oils in process.
2/ Preliminary.
3/ Figures may not add to total because of rounding.

Source: Current Industrial Reports, Fats and Oil, Production Consumption and Stocks Series: M20K U.S. Department of Commerce, Bureau of the Census.

Table 24.--Average monthly price of menhaden oil 1/, f.o.b. East Coast plants, 1965-76

| Month | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cents per pound | | | | | | | | | | | |
| January | 9.2 | 9.5 | 8.9 | 6.0 | 4.7 | 8.8 | 10.4 | 7.4 | 8.8 | 21.0 | 25.0 | 5/ |
| February | 9.5 | 9.7 | 8.9 | 6.1 | 5.0 | 2/ 9.2 | 10.3 | 6.8 | 4/ 9.6 | 21.2 | 4/20.0 | 5/ |
| March | 9.5 | 9.8 | 8.6 | 5.8 | 5.2 | 3/ 8.9 | 10.2 | 6.5 | 4/10.2 | 23.2 | 5/ | |
| April | 9.5 | 9.8 | 7.2 | 5.4 | 5.3 | 3/ 9.7 | 9.6 | 6.4 | 10.8 | 25.7 | 5/ | |
| May | 9.4 | 9.8 | 6.9 | 5.2 | 5.2 | 3/10.3 | 9.0 | 6.9 | 11.6 | 5/ - | 13.5 | |
| June | 9.2 | 9.6 | 7.0 | 5.2 | 5.2 | 10.3 | 8.0 | 6.8 | 2/11.8 | 25.0 | 13.0 | |
| July | 9.0 | 9.4 | 6.7 | 4.8 | 5.2 | 10.4 | 8.6 | 6.9 | 11.7 | 25.4 | 13.5 | |
| August | 9.3 | 9.0 | 6.0 | 4.6 | 5.6 | 10.2 | 9.2 | 7.3 | 2/11.5 | 26.0 | 14.6 | |
| September | 9.5 | 9.4 | 5.8 | 4.4 | 6.1 | 9.7 | 9.2 | 7.8 | 2/11.5 | 25.0 | 15.0 | |
| October | 9.5 | 9.4 | 6.0 | 4.4 | 6.8 | 9.8 | 8.8 | 8.7 | 5/ - | 24.9 | 15.2 | |
| November | 9.5 | 9.2 | 6.0 | 4.4 | 8.2 | 10.1 | 8.9 | 8.8 | 5/ - | 26.0 | 15.2 | |
| December | 9.5 | 8.9 | 6.0 | 4.4 | 8.5 | 10.6 | 8.5 | 8.9 | 5/ - | 25.0 | 15.5 | |
| Average 6/ | 9.3 | 9.4 | 6.4 | 4.7 | 5.8 | 10.2 | 8.8 | 7.2 | 11.6 | 25.4 | 14.0 | |

1/ Crude oil in tank cars; prices quoted by brokers at New York City.
2/ Asking price.
3/ F.o.b. Gulf Coast plants.
4/ Nominal price.
5/ Supplies exhausted, no quotes.
6/ Weighted average.

Table 25.--Average monthly price of tuna and mackerel oil 1/, at Los Angeles, 1965-76

| Month | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cents per pound | | | | | | | | | | | |
| January | 6.6 | 8.0 | 6.5 | 3.5 | 3.2 | 3.2 | 6.0 | 5.2 | 5.5 | 7.1 | 15.5 | 7.6 |
| February | 7.0 | 7.8 | 6.5 | 3.2 | 3.1 | 3.5 | 6.0 | 5.2 | 5.1 | 9.0 | 15.5 | 8.0 |
| March | 7.1 | 7.8 | 6.6 | 3.2 | 3.0 | 3.6 | 6.0 | 5.2 | 5.5 | 12.0 | 10.0 | |
| April | 7.2 | 7.6 | 6.2 | 3.2 | 3.0 | 4.1 | 6.0 | 5.2 | 5.8 | 2/ | 3/ 7.2 | |
| May | 7.4 | 7.5 | 6.2 | 3.2 | 3.0 | 4.7 | 5.9 | 5.2 | 6.3 | 11.0 | 3/ 7.4 | |
| June | 7.6 | 7.4 | 6.0 | 3.2 | 3.0 | 4.8 | 5.5 | 5.2 | 6.7 | 11.0 | 3/ 7.5 | |
| July | 8.0 | 7.1 | 5.8 | 3.2 | 3.0 | 4.8 | 6.0 | 5.2 | 6.7 | 12.3 | 3/ 7.5 | |
| August | 8.4 | 7.0 | 4.6 | 3.2 | 3.1 | 4.9 | 5.2 | 4.9 | 6.9 | 12.8 | 3/ 7.5 | |
| September | 8.5 | 7.0 | 3.8 | 3.2 | 3.2 | 5.2 | 5.2 | 4.8 | 7.0 | 13.0 | 7.6 | |
| October | 8.6 | 7.0 | 3.8 | 3.2 | 3.2 | 5.2 | 5.2 | 4.8 | 6.4 | 14.0 | 7.7 | |
| November | 8.6 | 7.0 | 3.8 | 3.2 | 3.0 | 5.5 | 5.2 | 5.0 | 6.5 | 15.3 | 7.1 | |
| December | 8.1 | 7.0 | 3.8 | 3.2 | 3.0 | 6.0 | 5.2 | 5.5 | 6.9 | 15.4 | 3/ 6.8 | |
| Average 4/ | 8.0 | 7.3 | 5.2 | 3.2 | 3.1 | 5.0 | 5.6 | 5.1 | 6.5 | 12.3 | 8.7 | |

1/ Crude oil, f.o.b, plant; prices quoted by brokers at Los Angeles.
2/ Supplies exhausted, no quotes.
3/ Tuna only.
4/ Weighted average.

Table 26.--Ratio of menhaden oil price 1/ to soybean oil price 2/ by month 1965-76

| Month | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Price ratio | | | | | | | | | | | |
| January | .79 | .80 | .86 | .69 | .55 | .91 | .84 | .67 | .87 | .73 | .74 | 3/ |
| February | .78 | .81 | .86 | .64 | .56 | .80 | .85 | .62 | .74 | .58 | 3/ | 3/ |
| March | .78 | .86 | .84 | .64 | .59 | .73 | .84 | .55 | .74 | .77 | 3/ | |
| April | .78 | .85 | .70 | .61 | .63 | .79 | .86 | .54 | .72 | .91 | 3/ | |
| May | .91 | .86 | .67 | .60 | .60 | .91 | .78 | .60 | .68 | 3/ | .57 | |
| June | .90 | .86 | .71 | .67 | .67 | .93 | .63 | .64 | .61 | .71 | .56 | |
| July | .90 | .76 | .74 | .66 | .64 | .90 | .59 | .67 | .52 | .63 | .49 | |
| August | .89 | .64 | .63 | .61 | .63 | .88 | .64 | .72 | .34 | .60 | .51 | |
| September | .83 | .77 | .62 | .58 | .63 | .80 | .71 | .80 | .47 | .62 | .62 | |
| October | .83 | .87 | .68 | .62 | .64 | .70 | .67 | .91 | 3/ | .58 | .71 | |
| November | .85 | .85 | .70 | .56 | .75 | .73 | .71 | .92 | 3/ | .64 | .80 | |
| December | .85 | .84 | .70 | .55 | .89 | .85 | .73 | .92 | 3/ | .66 | .92 | |
| Average | .84 | .81 | .73 | .62 | .65 | .83 | .74 | .71 | .63 | .68 | .66 | |

1/ Crude, tank cars, f.o.b. at New York City.
2/ Crude, tank cars, f.o.b. at Decatur, Ill.
3/ Not available, menhaden oil no quotes.

The Secretary of Commerce has determined that the publication of this periodical is necessary in the transaction of the public business required by law of this Department. Use of funds for printing this publication approved by the Office of Management and Budget, through June 30, 1978.

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☆U.S. GOVERNMENT PRINTING OFFICE: 1976 210-960/7 1-3

**U.S. DEPARTMENT OF COMMERCE**
**National Oceanic and Atmospheric Administration**
NATIONAL MARINE FISHERIES SERVICE
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